REMARKS

Claim 105 is amended.

Claims 1, 4-14, 56-70, 72-77, 79-82, 90-98 and 104 are allowed.

Claims 84 and 85 are objected to for depending from a rejected base claim but would be allowable if rewritten to include the limitations of the base claim.

Claims 78 and 105 stand rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 83, 86-89, 99, 101, 102, and 105 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schuele, 5,760,474 in view of Ramakrishnan, 5,192,871. Claim 100 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Schuele/Ramakrishnan in view of Wu, 5,998,247. Claims 103 and 106-108 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schuele/Ramakrishnan in view of Venkatraman, 6,093,966, Chen, 6,100,137 and Yu, 6,274,443.

Further with regards to the rejection based on §112, first paragraph, the Examiner is respectfully reminded that MPEP §2163.02 (8th ed., rev. 2) states the test for sufficiency of support in an application is whether the disclosure

relied upon "reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." MPEP §2163.02 (8th Edition) *citing Ralston Purina Co. v Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985). Notably, ***the subject matter of the claim need not be described literally (i.e., using the same terms or in haec verba) in order for the disclosure to satisfy the description requirement***. MPEP §2163.02 (8th ed., rev. 2).

Regarding the §112 rejection against claim 105, claim 105 is amended to recite a high K dielectric layer comprises another portion which comprises dielectric material. The amendment language of claim 105 is supported by the originally-filed specification by descriptions for exemplary embodiments at, for example, page 8, lns. 13-16. Since claim 105 recites to subject matter described in the originally-filed specification, the §112 rejection is moot and should be withdrawn.

Regarding the §112 rejection against claim 78, claim 78 recites a first electrode layer comprises a monolithic unitary material. Examiner states Applicant has failed to provide a clear, concise and meaningful definition of the term, "monolithic unitary material" that is supported by the originally-filed application (pg. 7 of paper no. 44). An exemplary definition of "monolithic" is: constituting one massive undifferentiated whole exhibiting solid uniformity often without diversity or variability (pg. 1462 of *Webster's Third New International*

Dictionary, Vol. II, unabridged, copyright 1976). Applicant directs the Examiner's attention to an exemplary disclosure of Applicant's invention at Fig. 9 which illustrates element 136 which is described as an exemplary first electrode and meets the above exemplary definition for "monolithic". Respectfully, the Examiner is reminded that the Federal Circuit Court has stated that **drawings alone** may be sufficient to provide the "written description of the invention" required by the first paragraph of 35 U.S.C. §112. *Vas-Cath, Inc. vs. Mahurkar*, 935 F.2d. 1555, 19 USPQ2d 1111, 1118 (Fed. Cir. 1991) (emphasis added). Since element 136 of Fig. 9 of the originally-filed application is shown in one embodiment as a monolithic unitary material, element 136 supports the language recited by claim 78. In view of the above definition and the figures of the originally-filed application, it is clear that at least one embodiment of the first electrode layer is disclosed as being a monolithic unitary material in the originally-filed application even though the term is not literally described in the specification. Applicants respectfully submit that the original disclosure including Fig. 9 would convey to one of skill in the art that the first electrode layer comprises a monolithic unitary material. Accordingly, pursuant to the above authority, the rejection based on §112 against claim 78 is improper and should be withdrawn.

No other rejections are presented against claim 78, and therefore, claim 78 is allowable.

Regarding claim 83 being rejected by the combination of Schuele and Ramakrishnan, such claim recites a high K dielectric layer comprises a portion of amorphous material and a portion of crystalline material. The Examiner correctly states Schuele fails to teach a high K dielectric layer having a crystalline portion and an amorphous portion, and relies on Ramakrishnan for the teaching to modify the Schuele ferroelectric layer 60 to have an amorphous layer to protect the dielectric properties of the dielectric layer (prevent migration of foreign materials described below). In a previous office action, the Examiner stated it would be advantageous for the ferroelectric layer 60 of Schuele to include an amorphous portion to prevent migration of foreign materials and the Applicant demonstrated that this is redundant as Schuele already provides extensive teachings to provide a barrier layer to prevent migration of materials (*see* Schuele at: col. 3, lns. 1-15; lns. 40-60; col. 4, lns. 54-67; col. 5, lns. 40-55; *Abstract*; *Background*).

In the present office action (paper no. 44), the Examiner now suggests that Schuele teaches to provide a barrier layer to prevent diffusion only between a **lower electrode** and a dielectric layer (of a capacitor), and tacitly states that Schuele **fails to teach** to provide a barrier layer to prevent diffusion between a **top electrode** and a dielectric layer (pg. 8, para. 24, paper no. 44). Accordingly, the Examiner relies on Ramakrishnan stating such reference teaches to provide an amorphous portion of a dielectric layer to prevent diffusion between

a **top** electrode and a dielectric layer, and therefore, tacitly states that the motivation to modify the ferroelectric layer of Schuele to include an amorphous portion is to prevent diffusion of materials between the **top electrode** and the dielectric layer of the Schuele device (pg. 8, para. 24, paper no. 44).

However, respectfully, the Examiner is mistaken as again this alleged motivation to modify the Schuele device is redundant. Schuele teaches the dielectric layer 60 is to be annealed to improve the capacitor leakage current by modifying the grain structure to make more desirable grains or further to remove defects at the upper electrode interface, that is, **to prevent diffusion of foreign materials between the upper electrode and the ferroelectric layer 60 (col. 4, lns. 56-60).** Accordingly, to suggest modifying the Schuele ferroelectric layer 60 to have an amorphous portion as taught by Ramakrishnan is redundant since Schuele already teaches how to prevent diffusion of foreign materials *between* an *upper electrode and dielectric layer*. No motivation or desirability can be reasonably stated to modify the Schuele ferroelectric layer 60 **to do what Schuele already teaches to do.** Consequently, the alleged motivation to modify the Schuele device by these teachings of Ramakrishnan is redundant, and therefore, such teaching of Ramakrishnan is not appropriate to provide a proper motivational rationale. Lacking a proper motivational rationale to combine the teachings of the references, the obviousness rejection based on the combination of references must fail, and therefore, claim 83 is allowable.

In addition, the Federal Circuit discussed proper motivation *In re Lee*, 61 USPQ 2d 1430 (Fed. Cir. 2002). The motivation identified in the Office Action is akin to the conclusory statements set forth in *In re Lee* which were found to fail to provide the requisite motivation to support an obviousness rejection. The Court in *In re Lee* stated the factual inquiry whether to combine references must be *thorough and searching*. It must be based *on **objective** evidence of record*. The Court in *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) stated motivation is provided only by showing some *objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art* that would lead that individual to combine the relevant teachings of the references. The *Lee* Court stated that the Examiner's *conclusory statements* in the *Lee* case do not adequately address the issue of motivation to combine. The Court additionally stated that the factual question of motivation is material to patentability and **can not be resolved on subjective belief and unknown authority. The Court also stated that deficiencies of cited references cannot be remedied by general conclusions about what is basic knowledge or common sense. The Court further stated that the determination of patentability must be based on evidence.**

In the instant case, ***the record is entirely devoid of any evidence to support motivation to combine the teachings apart from the bald conclusory statements of the Examiner which are insufficient for proper motivation*** as

set forth by the Federal Circuit. There is absolutely no evidence that the device of Schueie is deficient with respect to migration of foreign materials such that one would be motivation to look for other solutions or that any improvement would result from the combination of the reference teachings. The only rationale is the subjective opinion of the Examiner improperly based upon Applicants' own disclosure. There is no motivation to combine the reference teachings and the Office has failed to establish a *prima facie* rejection for at least this reason.

Claims 84-89 and 99-103 depend from independent claim 83, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are not shown or taught by the art of record.

This application is now believed to be in immediate condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview prior to issuance of any such subsequent action.

Respectfully submitted,

Dated: 2-16-05

By: _____
D. Brent Kenady
Reg. No. 40,045